EARMARK®
1125 Dixwell Ave., Hamden, CT 06514 USA
Telephone (203) 777-2130
FAX (203) 777-2886

February 10, 1993

Office of the Secretary
Federal Communications Commission
Washington, DC 20554

Subject: Comments by Earmark, Inc. in the Matter of:
PR Docket No. 92-235
Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them

Regarding: Notice of Proposed Rule Making

Gentlemen:

Earmark is a company of modest size, engaged in the business of manufacturing and selling, small, low power radios. Our products are distinguished from other portable radios by the nature of their uses. Earmark products are uniquely engineered to be utilized in specialized, harsh environments such as areas of very high noise or places where noxious gases require respiratory protection. The difficult nature of the tasks undertaken by users of Earmark equipment is such that our products are generally in continuous use and are likely to become a key productivity feature in accomplishing the task. Many of our radios are built into noise cancelling headsets. These provide individuals with a combination of 23 NRR noise elimination and local, team communications.

Earmark radios are often used by personnel engaged in activities related to valuable or hazardous materials wherein personal safety or the safety of the goods are of paramount importance. Under these circumstances the operating mode of choice is "full duplex", utilizing a frequency for each individual participating in the network. Full Duplex operations permit all participants to speak freely, at their own convenience, without waiting for a channel to clear. This is crucial to preserving the safety of participants in Hazmat Teams or other activities of like nature.

Earmark has long favored the 72-76 MHz frequency band for its radios. The 3 MHz spread is satisfactory for our low power, duplex radios, and the density of usage within this band is such that we can usually find adequate free frequencies for our customer's applications. We have, on occasion, been unable to satisfy certain customers in high density markets, ie, New York and Los Angeles, but these occasions constitute a small minority of applications. Since we manufacture mostly low power radios (100 milliwatts or less), we can and do coexist with other low power radio devices, ie, remote operated cranes, etc.

Comments by Earmark, Inc. regarding the Proposed Part 88, continued

Earmark is very small. Hardly even worth mentioning in the same breath as companies like Motorola or Kenwood. Our engineering resources are extremely limited. Left to our own devices, we devote these resources exclusively to business projects that are expected to either increase our sales or improve our service levels. These are the life blood of any small business, items we cannot afford to neglect. And, it's especially true of companies, like ourselves, who are committed to manufacturing in the USA, using as many American made components as we can.

The conversion from Part 90 to Part 88 threatens the continuity of small businesses such as Earmark. Whereas some large companies may already know precisely what has to be done to convert their products from current technology to narrow band, we do not. The transition from current technology to Phase I band width reductions is less than three years away. The less time we have, the more of our existing resources we must throw at the problem. Obviously, the redirection of resources will cause us to materially dilute our own plans for new products and product improvements.

New products and major product improvements are the items that separate us from our competitors. They preserve our ability to meet our payroll, create new jobs, and pay taxes on our earnings. If we don't comply with the proposed rules, we are out of business. If we work hard to comply, we must forego our new products, dilute our competitive edge and provide in-roads for foreign competition. In other words, there is no way the proposed rule changes offer a winning alternative for America's small businesses.

There is no economic benefit, no incentive that provides a payback for us within the time frame specified.. Consider the nature of engineering development and the apparent difficulty of this conversion. During the limited time remaining to us before Phase I implementation, Earmark must devote all of its technical resources to solving the band width problems. We see the problems as two fold. First, we must find a method to reliably limit the band width under a multiplicity of environmental temperature variations and second, we must assure reasonable fidelity for the voice signal. What's the good of receiving a radio transmission if you can't understand it?

If we follow the FCC's proposed schedule, we are likely to suffer substantive losses of revenue for the period immediately preceding the start of Phase I. After all, why would purchasers continue to buy radios during this pre-Phase I period if they know they will get a supposedly superior product as of Jan.1, 1996? In point of fact, they won't continue their purchasing practices unless we, the manufacturers, convince them that we are already in compliance with Phase I's requirements. This simple observation alone could shorten our available response time by as much as 50%. In the same context, when will users demand products that are in compliance with Phase II parameters? It's hard to predict, but, we can be certain they won't wait for 2004. No one will want to purchase goods they know will be obsolete in just a few years. The average user will be specifying "narrow band" technology long before the rules say it must be available. Rather than an economic incentive, the proposed changes appear to offer economic disincentives.

Comments by Earmark, Inc. regarding the Proposed Part 88, continued

Bringing this sort of pressure to bear on American small businesses, just as we appear to be pulling out of a major recession, doesn't seem a reasonable approach. It's almost as if someone concluded that there would never be a good time for such an activity, so, now's as good a time as any. Well, now isn't as good a time as any. We're working to hold down inflationary cost increases, facing a 30% escalation in our Employee Medical Insurance Premiums and trying to figure out how to borrow money from bankers who have no incentive to lend. We believe the proposed refarming is inopportune, to say the least. The economy, in general, and individual manufacturers would be far better served if all changes were deferred until the recovery is complete.

In addition to the above, general comments we note a number of apparent inconsistencies within the proposed Part 88. Please keep in mind that our expertise is limited to that area of the spectrum wherein we have the most experience, the 72-76 MHz range. Simply because we have no comments on spectra outside of this band does not imply that we have reviewed it or found it in any way satisfactory.

The 72-76 MHz spectrum is currently used by many low power transmitters for both voice and data. Under the current Part 90, licensing is treated separately for fixed and mobile radio devices. This distinction is maintained under the proposed Part 88. However, there appears to be a very different treatment given to the upgrades of fixed and mobile equipment. Whereas the requirements for Mobile Radios progress from the current 20 KHz to 10 KHz in 1996, and to 4 KHz in 2004, the requirements for Fixed Transmitters stay at 20 KHz throughout the regulatory projection. Though this band has traditionally been seen as a low power band, the preferential conditions offered to Fixed Stations will certainly draw more high power, "fixed" repeaters into use and create monumental conflicts. With 300 times more power (3000 times more than Earmark headsets) and a bandwidth five times greater than the mobile units are to be permitted, it seems obvious that the Fixed Stations will absorb all the available spectrum and push the rest of us off the air. Hardly seems fair! The low power guys, the ones that rarely bother anyone, are the ones who will suffer the most, while the big guys suddenly have no limits. Is this an intentional imbalance? Is the real intent simply to do away with low power users in the 72-76 MHz range? The very few extra frequencies provided exclusively for low power use, outside those bounded by the Fixed Station frequencies, are of little use in duplex systems. They are grouped in an area that obviates obtaining the 3 MHz separation needed for duplex in this band width.

Further to this argument, Earmark also manufacturers some equipment for use in accordance with Part 15. While Part 15 is not considered in the refarming, Part 15 users are definitely affected by whatever happens to Part 90. Among the Part 15 users, sharing the 72-76 MHz spectrum, are schools, teachers and students engaged in the teaching of hearing impaired children. Many of these kids have other impairments, Some of the other impairments are so bad that the kids can't even tell you they are being subjected to interference from outside sources. The transmitters the teachers use are quite small, less than 20 milliwatts. The student's receivers have to be sensitive, especially given the low quality antenna structures involved. Under Part 15 channel spacing is very generous, 50 KHz, to guarantee the absolute best fidelity for kids who need all the help they can get. Large, Fixed

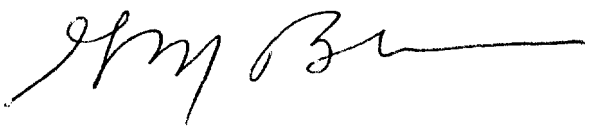
Comments by Earmark, Inc. regarding the Proposed Part 88, continued

Transmitters, booming away on 20 KHz centers, will wipe out the auditory trainers in short order. It is a fact that some school locations are already being plagued by interference from the larger, Fixed Transmitters. It doesn't take much imagination to see that if large, Fixed Stations, with up to 300 watts ERP, are permitted to proliferate between 72-76 MHz, there shortly won't be room for any hearing impaired kids. The situation is further exacerbated by the exemption of Fixed Stations from the requirements of Frequency Coordination. Apparently the designers of Part 88 didn't consider this issue when formulating their new plan.

We offer the following suggestions:

1. The FCC should defer implementing any changes until we are clearly in a period of growth and small business has the resources to energetically attack the problems. The earliest, realistic implementation we might foresee for Phase I is roughly the year 2000.
2. During the interim, the FCC should create a joint Government/Industry Task Force to study the broad implications of the proposed rule changes. Let's get agreement on the objectives and the agenda before setting up rules.
3. Assure small businesses are represented on the task force. Manufacturers, dealers, and users all should have an equal voice. This is too important an issue to leave to those firms and associations that can afford lobbyists. At least send your notices to all those who are licensed to manufacture the equipment which will be encumbered by the new rules.
4. Set the economic incentives so that all parties benefit, equally. Don't create an artificial barrier to competition where "big" wins by default.
5. Give consideration to constraining the numbers of large, Fixed Transmitters in any given market area so that there is ample space for Auditory Trainers, under Part 15, to coexist.

Thank you for this opportunity to comment,



Gerald M. Bloom
President
Earmark, Inc.

GMB/tc